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MEASURING THE UNMEASURABLE

What is Intellectual Capital?

Information and knowledge are the thermonuclear competitive weapons of our time. Knowledge is more valuable and more powerful than natural resources, big factories, or fat bankrolls. In industry after industry, success comes to the companies that have the best information or wield it most effectively. Wal-Mart, Microsoft, and Toyota did not become great companies because they are richer than Sears, IBM, and General Motors, on the contrary. But they had something far more valuable than physical or financial assets. They had Intellectual Capital.

A business or government organization not only transmits input into output through a process of knowledge, it also creates or destroys knowledge. Most management research and consultancy services have been focusing on how to increase the input-output ratio, often called efficiency and effectiveness improvement, but have often ignored the explicit value of knowledge processing and knowledge creation within an organization.

The creation of Organizational Knowledge – either privately or publicly owned – refers to the capability of a company as a whole to create new knowledge, disseminate it throughout the organization and embody it in products, services and systems. It is through the specific use of knowledge and continuous innovation that organizations

create competitive advantages over other organizations. Intellectual Capital is considered as the resource that creates invisible or intangible sources of competitive advantages such as networks and organizational systems. The value of any organization is constituted of (1) the physical tangible and financial capital which one finds on the balance sheet of a company and (2) the intangible assets of a company which are usually described as “goodwill” on the balance sheet.

A company's Intellectual Capital or Knowledge Base is usually determined as the sum of its *human capital* (talent), *structural capital* (intellectual properties, methodologies, software, documents, and other knowledge artefacts), and *customer capital* (client relationships). These intangible assets or Intellectual Capital are to a high extent related to relationships with the customers and suppliers, and with the employees and partners of the company. “Good will” does not fully encompass the real value of IC as we understand it. Sometimes IC is interpreted as the difference between the book value – i.e. the historic value of the assets of a company not yet amortized – and the market value which equals the perceived present value of the future cash flow of a company.

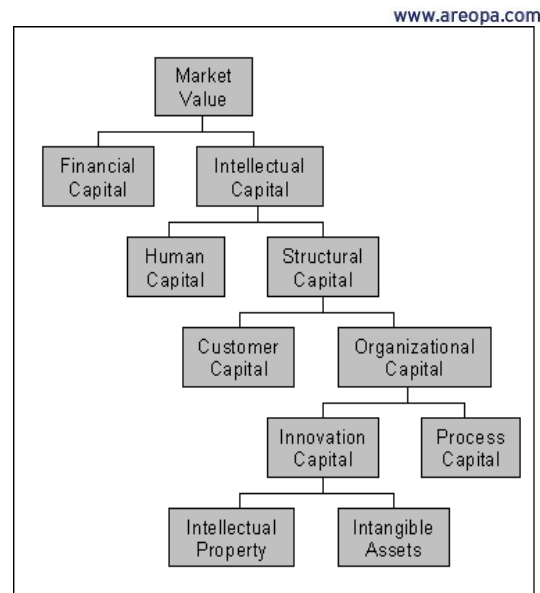
Intellectual Capital is the sum of everything everybody in a company knows that gives it competitive edge. Unlike the assets with which business people and accountants are familiar –



land, factories, equipment, cash – Intellectual Capital is intangible. It is the knowledge of a workforce, the training and intuition of a team. It is the collaboration – the shared learning – between a company and its customers, which forges a bond between them that brings the customers back again and again.

In one sentence: *Intellectual Capital is intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth.*

One of the first companies in the world that actually tried to quantify their non physical assets in a coherent manner was a Swedish insurance and finance company, Skandia. Leif Edvinsson, their Intellectual Director, not only managed to quantify Skandia's invisible or intangible assets – Intellectual Capital -, but also contributed to the increased awareness of the concept of Intellectual Capital in Europe:



Quantification of Intellectual Capital

The lack of means to determine the IC value of an investment opportunity often makes investment decisions very risky. A company with a large share of IC, which is not illustrated in line with the traditional accounting principles, and which has a high future earnings potential, can easily be wrongfully valued. The consequences may be under capitalization and reduced ability for the company to perform optimally.

Measuring the acquisition and use of knowledge assets excites great interest and great skepticism. Even people who decry the inadequacy of today's accounting worry about putting untried, possibly subjective, non-financial measures into annual reports. Corporate financial statements are cluttered enough with good will, restructuring charges, and other items, that many complain that they no longer describe financial performance clearly. Yet if it would be a



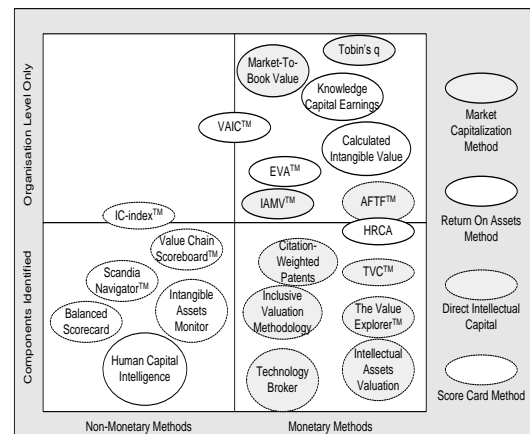
mistake to mingle measures of Intellectual Capital with financial data, it would be a greater one not to use them at all. Ultimately managing Intellectual Capital depends on finding rigorous ways to track it, which correlates with financial results. The data we want should, first, allow management to evaluate year-to-year performance – to measure progress towards goals – and, second but more difficult, permit company-to-company comparisons. Undoubtedly measuring knowledge assets must be imprecise, but there is a lot of informed guesswork in “hard” numbers, too.

Value is defined by the buyer, not the seller: something is worth what someone is willing to pay for it. A company, therefore, is worth what the stock market says: price per share x total number of shares outstanding = market value, what the company as a whole is worth. The simplest, and by no means worst, measure of Intellectual Capital is the difference between its market value and its book equity. The assumption here is that everything left in the market value after accounting for the fixed assets must be intangible assets. If Microsoft is worth \$85.5 billion and its book value is \$6.9 billion, then its Intellectual Capital is \$78.6 billion. But market-to-book ratios have three problems. First, the stock market is volatile and responds, often strongly, to factors outside the control of management. Second, there is evidence that both book value and market value are usually understated. Third, while it is nice to say that Microsoft has \$78.6 billion in intangible

assets, so what? What can I, as a manager or investor, do with this information?

The research regarding the measuring and visualization of IC and the intangible assets of companies and organizations have, during the last decades, resulted in various methods, models and theories concerning this area of study.

These methods can be classified into four categories of the measurement approaches, as illustrated in the figure below. They are: component-by-component and non-monetary, component-by-component and monetary, organizational level and non-monetary and organizational level and monetary.



SOURCE: *INTANGIBLE ASSETS MEASUREMENT MODELS* (SVEIBY, 2001)

Some believe that IC can be quantified and precisely expressed in monetary terms, others deny that such an approach would be possible or viable. AREOPA¹

¹ AREOPA was founded in 1992 as a management consulting firm. AREOPA has built up a strong reputation over the years in the development of methods, models and



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belongs to the former, believing in the component by component direct monetary calculation. Intellectual Capital remains the Intangible Asset *par excellence*, volatile, invisible, impossible to count or measure at first sight. The problem was that until recently, hardly any objective measures of non-financial assets existed, and where they did, they were very specific and limited in scope.

AREOPA's Methodology to Measure Intellectual Capital

The importance of financial assets in the determination of a company's market value is decreasing fast and it is equally recognised that non-financial (or intangible) assets are now the main drivers of performance and market value. To date, however, there exist little or no objective quantitative measures of intangible assets, and where they are claimed to exist (e.g. in the valuation of brands, intellectual property, patents, etc.) they are very specific and limited in scope.

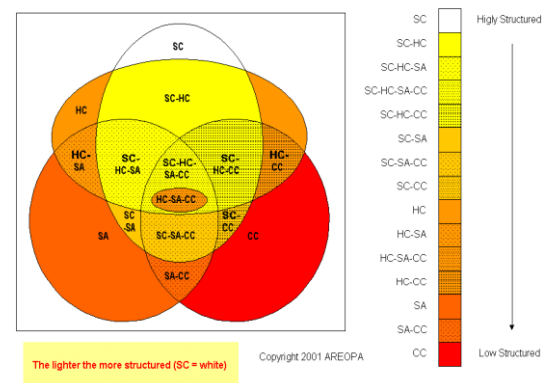
AREOPA has developed a model for identifying and quantifying intangibles as components of Intellectual Capital (IC). This model serves to evaluate a company's return on all the capital it employs, helping to explain the difference between book and market value. It also provides guidance as to how and where management should put its attention to grow the organisation's overall IC.

tools in such areas as "Change Management", "Intellectual Capital" and "Knowledge Management and e-Learning" and the provision of consulting services making use of these methods, models and tools. www.areopa.com

AREOPA positions Intellectual Capital calculation as a management tool and not as a simple financial calculation of the intangible assets of the organization and thus explaining the difference between book value and market value. Management wants to understand the value of the Intellectual Capital of their organization. By giving a monetary value to the Intellectual Capital, management starts to understand the value and the impact.

AREOPA's 4-Leaf Model[®] identifies the sources of added value and competitive advantage in businesses and in particular of virtual organizations - collaborative networks of otherwise independent economic entities - that build their business models around the internet using minimal financial assets.

IC - 4 leaf model - 15 categories



The Four IC Classes

The four base classes are Human, Customer and Structural Capital, plus Strategic Alliance Capital.



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The latter gives recognition to the fact that partnerships, alliances and networks are increasingly important factors of business in the New Knowledge Economy. The strength of the alliance or network significantly impacts the leverage any one company may have in its market, and therefore affects its value.

A second crucial observation is that, apart from Structural Capital, the base IC classes are in fact *shared* capital. For instance, Human Capital (HC) is shared with its 'owners': when a staff member decides to leave the organization, he/she takes his/her skills and competences, reputation and potential along. Similar rules apply to both Customer Capital (CC) and Strategic Alliance Capital (SAC): when the customer takes his business elsewhere or an alliance breaks up, the customer's revenue potential and partnership's leverage are.

However, not all may be lost in such extreme but realistic scenarios since at least the customers' name may remain on the company's reference list, and a former partner may still perform as an 'at arm's length' supplier: these indicate that some CC and SAC has become structural, and is therefore unaffected by the departure of a customer, resp. strategic alliance.

The consequence of this is that Intellectual Capital may flow from one sector into the next. And this is where management of IC comes into play. It is important for companies to realize where their IC is situated, and which actions

need to be taken to convert IC that is at risk of being lost into IC that has become structural, i.e. to structuralize its Human, Customer and Strategic Alliance Capital to the maximum extent possible.

The IC calculation (ICC) developed by AREOPA contributed to improve a better understanding of the intangible assets of an organization and its related management issues.

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The way forward

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The IASC recognises that investments in, and awareness of the importance of intangible assets have increased significantly in the last two decades. It has worked for almost 10 years to produce International Accounting Standards on Intangible Assets.

In Europe, steps have been taken by national governments, especially in the Nordic countries, to produce some legislation to force private organizations to make public some Intellectual Capital items. The European Commission is investing heavily in the research and promotion of Intellectual Capital, which, at some point in time in the near future, will hopefully result in some general



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rules and instructions for the economic community at large to start reporting their Intellectual assets next to the traditional financial values.